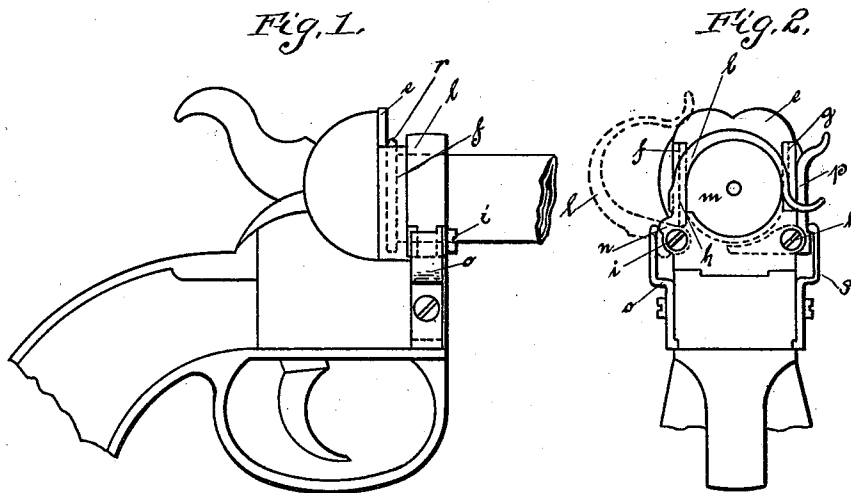


(No Model.)

J. G. W. BERCKHOLTZ.  
PYROTECHNIC FIRING DEVICE.

No. 562,451.

Patented June 23, 1896.



Witnesses:  
H. Hauke  
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# UNITED STATES PATENT OFFICE.

JOHANN G. W. BERCKHOLTZ, OF HAMBURG, GERMANY.

## PYROTECHNIC FIRING DEVICE.

SPECIFICATION forming part of Letters Patent No. 562,451, dated June 23, 1896.

Application filed October 31, 1894. Serial No. 527,554. (No model.) Patented in England October 3, 1894, No. 18,722; in Belgium October 15, 1894, No. 112,142; in Austria October 26, 1894, No. 44/5,639; in Italy December 1, 1894, XXIX, 37,643; in France January 10, 1895, No. 241,629; in Portugal January 23, 1895, No. 1,939; in Spain February 4, 1895, No. 16,681; in Canada August 6, 1895, No. 49,631; in Norway August 10, 1895, No. 3,919, and in Switzerland September 15, 1895, No. 10,264.

*To all whom it may concern:*

Be it known that I, JOHANN GEORG WILHELM BERCKHOLTZ, fireworker, residing at 56 Gärtnerstr., Hoheluft, Hamburg, in the German Empire, have invented new and useful Improvements in Pyrotechnic Firing Devices, (patented in Austria, No. 44/5,639, October 26, 1894; in Belgium, No. 112,142, October 15, 1894; in France, No. 241,629, January 10, 1895; in England, No. 18,722, October 3, 1894; in Italy, XXIX, 37,643, December 1, 1894; in Switzerland, No. 10,264, September 15, 1895; in Norway, No. 3,919, August 10, 1895; in Spain, No. 16,681, February 4, 1895; in Portugal, No. 1,939, January 23, 1895, and in Canada, No. 49,631, August 6, 1895,) of which the following is a specification.

The object of this invention is an apparatus by means of which light-signal cartridges may be secured, fired, and ejected.

The accompanying drawings illustrate the invention, as follows:

Figure 1, a side view; Fig. 2, a front view.

The firing apparatus has the appearance of a pistol without a barrel. A lock with cock and firing-pin is attached to the pistol-grip and terminates at its upper front end in a disk *e*, provided at the sides with the cheeks of guide *f* and *g*. In front of and below the disk *e* the grip forms the cartridge-bearing *h*, supplied with pivot-screws *i* and *k*, and a strap is rotatably fixed to pivot *i*. The strap is provided with a notch *n* and a protuberance and is kept in a closed condition by the spring *o*. The extractor *p*, having the form of an angle-lever, is fixed to the pivot *k*, so as to turn freely thereon.

In order to fire off a cartridge, the strap *l* is

turned back until the spring *o* catches with its upper rounded end into the notch of the strap, whereby the latter is secured. (Indicated in the drawings by dotted lines.) The cartridge is then inserted with its end *r* between the guides *f* and *g*, so as to rest on its bearing and to contact its rear end with the disk *e*. The strap *l* is then closed again and the trigger pulled. When the cartridge is burned off entirely, the strap *l* is opened and the extractor *p* pressed down, whereby the cartridge is lifted out of its bearing and removed. The extractor returns instantly to its original position, owing to the action of the spring *s*, and a new cartridge may be inserted preparatory to firing in the manner set forth.

The chief advantage of this firing device, when compared with those of an older date, is its great simplicity, which is especially brought about by dispensing with the barrel. Having now described my invention, what I claim, and desire to secure by Letters Patent, is—

In a pyrotechnic firing device, the combination of the grip, trigger, firing-pin and the slotted cartridge-holder; the cartridge-bearing support adjacent thereto, and the hinged cartridge-holding strap; the ejector pivoted oppositely to the holding-strap and the two springs for restraining the said holding-strap and ejector, substantially as described.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

J. G. W. BERCKHOLTZ.

Witnesses:

EDWARD SIFF,  
RICHARD MEISTER.